

3.2.9 Upper Bull Run Group Summary

3.2.9.1 Cub Run Watershed

Description. Cub Run Watershed is a large watershed, with approximately 75 miles of stream assessed. The watershed encompasses most of the eastern end of the County, with the upper portion of the watershed is located in Loudoun County. Cub Run drains to Bull Run, which eventually joins the Occoquan River.

Habitat. The habitat assessment results for Cub Run Watershed are summarized by stream in Table 3-39. Habitat scores for each reach are depicted in Figure 3-59. Based on a length weighted habitat score of 110 (Table 3-2), Cub Run Watershed is in the upper middle range of quality, compared to the rest of the County. Approximately 4.5 mile of stream were categorized as having “very poor” habitat conditions, 17 miles as “poor,” 33 miles as “fair,” and 18 miles as “good” and 1 mile as “excellent.”

CEM. Based on the CEM evaluations approximately 60 percent of the channels assessed in Cub Run Watershed are in Evolutionary Stage 3 (Table 3-3) and most of the rest are in Stage 4. Figure 3-60 summarizes the CEM results for Cub Run Watershed.

Infrastructure. The infrastructure inventory resulted in 1473 inventory points. The most significant problem was related to 20 deficient buffers as well as a variety of other infrastructures with an impact score of 10. Figures 3-61, 3-62, 3-63, 3-64, and 3-65 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

3.2.9.2 Bull Run Watershed

Description. Bull Run Watershed is a medium-sized watershed, with approximately 13 miles of stream assessed. It is located at the eastern most portion of the County. The watershed consists of many small tributaries to Bull Run, with some of the upper most headwaters located in Loudoun County. Bull Run eventually drains into the Occoquan River.

Habitat. The habitat assessment results for Bull Run Watershed are summarized by stream in Table 3-41. Habitat scores for each reach are depicted in Figure 3-59. Based on a length weighted habitat score of 108 (Table 3-2), Bull Run Watershed is in the upper middle range of quality, compared to the rest of the County. Approximately 2 miles of stream was categorized as having “poor” habitat conditions, 9 miles as “fair,” and 2 miles as “good.”

CEM. Based on the CEM evaluations approximately two thirds of the channels assessed in Bull Run Watershed are in Evolutionary Stage 3 (Table 3-3) with the remainder in Stage 2. Figure 3-60 summarizes the CEM results for Bull Run Watershed.

Infrastructure. The infrastructure inventory resulted in 59 inventory points. The most significant problems were related to a crossing that was given an impact score of 8 and five deficient buffers that were given an impact score of 7. The infrastructure inventory results are summarized in Table 3-42. Figures 3-61, 3-62, 3-63, 3-64, and 3-65 summarize impact scores for the erosion problems; deficient buffers; crossings; pipes/ditches; and dumps, obstructions, and utilities, respectively.

TABLE 3-39
Habitat Assessment Summary for Cub Run Watershed
Fairfax County Stream Physical Assessment

Stream	Linear Feet (Percent) of Stream					Total
	Very Poor	Poor	Fair	Good	Excellent	
Big Rocky Run	678 (0.90)	13,055 (17.26)	32,374 (42.79)	28,804 (38.07)	742 (0.98)	75,653
Cain Branch	0 (0.00)	1,365 (10.34)	8,364 (63.32)	3,479 (26.34)	0 (0.00)	13,208
Cub Run	753 (0.88)	20,384 (23.90)	44,663 (52.37)	17,698 (20.75)	1,781 (2.09)	85,279
Dead Run	0 (0.00)	2,253 (28.19)	4,307 (53.89)	1,433 (17.93)	0 (0.00)	7,993
Elklick Run	0 (0.00)	5,506 (14.96)	22,877 (62.17)	3,998 (10.87)	4,414 (12.00)	36,794
Flatlick Branch	0 (0.00)	14,332 (35.62)	17,866 (44.40)	8,038 (19.98)	0 (0.00)	40,236
Frog Branch	0 (0.00)	0 (0.00)	0 (0.00)	7,716 (100.00)	0 (0.00)	7,716
Oxlick Branch	4,346 (32.26)	4,215 (31.29)	4,911 (36.45)	0 (0.00)	0 (0.00)	13,472
Round Lick Branch	0 (0.00)	9,525 (48.42)	5,297 (26.92)	4,851 (24.66)	0 (0.00)	19,673
Sand Branch	0 (0.00)	0 (0.00)	769 (100.00)	0 (0.00)	0 (0.00)	769
Schneider Branch	3,443 (17.92)	4,272 (22.23)	9,374 (48.78)	2,128 (11.07)	0 (0.00)	19,217
Tributary to Big Rocky Run	794 (4.93)	2,451 (15.22)	8,796 (54.61)	4,067 (25.25)	0 (0.00)	16,108
Tributary to Bull Run	0 (0.00)	0 (0.00)	922 (24.05)	2,912 (75.95)	0 (0.00)	3,834
Tributary to Cub Run	3,806 (11.33)	11,293 (33.63)	13,047 (38.85)	5,438 (16.19)	0 (0.00)	33,583
Tributary to Flatlick Branch	10,460 (56.41)	2,134 (11.51)	2,840 (15.32)	3,108 (16.76)	0 (0.00)	18,542
Tributary to Frog Branch	0 (0.00)	0 (0.00)	0 (0.00)	1,693 (100.00)	0 (0.00)	1,693
Watershed Total	24,280 (6.17)	90,786 (23.06)	176,406 (44.80)	95,362 (24.22)	6,936 (1.76)	393,770

TABLE 3-40
Infrastructure Assessment Summary for Cub Run Watershed
Fairfax County Stream Physical Assessment

Impact Score	0	1	2	3	4	5	6	7	8	9	10	>10	Total
Deficient Buffers	0	6	88	65	46	125	14	43	8	2	20	N/A	417
Crossings	73	113	81	19	11	16	2	5	1	0	1	N/A	322
Ditches and Pipes	232	66	57	22	6	27	5	3	5	1	5	N/A	429
Erosion	0	0	5	8	10	41	12	26	1	1	2	N/A	106
Head Cut	0	0	1	7	6	3	1	0	0	0	8	N/A	26
Obstruction	12	2	14	45	20	24	7	11	9	4	4	N/A	152
Utility	10	1	1	3	0	2	0	2	0	0	2	0	21
Total	327	188	247	169	99	238	41	90	24	8	42	0	1473










TABLE 3-41
Habitat Assessment Summary for Bull Run Watershed
Fairfax County Stream Physical Assessment

Stream	Linear Feet (Percent) of Stream					Total
	Very Poor	Poor	Fair	Good	Excellent	
Tributary to Bull Run	0 (0.00)	11,245 (16.29)	45,940 (66.57)	11,823 (17.13)	0 (0.00)	69,007
Watershed Total	0 (0.00)	11,245 (16.29)	45,940 (66.57)	11,823 (17.13)	0 (0.00)	69,007

TABLE 3-42
Infrastructure Assessment Summary for Bull Run Watershed
Fairfax County Stream Physical Assessment

Impact Score	0	1	2	3	4	5	6	7	8	9	10	>10	Total
Deficient Buffers	0	0	2	13	0	5	4	5	0	0	0	N/A	29
Crossings	0	5	8	3	2	0	1	0	1	0	0	N/A	20
Ditches and Pipes	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Erosion	0	0	0	0	0	1	0	0	0	0	0	N/A	1
Head Cut	0	0	0	0	0	0	0	0	0	0	0	N/A	0
Obstruction	2	0	1	3	2	0	0	0	0	0	0	N/A	8
Utility	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	2	5	11	19	4	7	5	5	1	0	0	0	59



-  Fairfax County Boundary
- Habitat Rating
-  Excellent
-  Good
-  Fair
-  Poor
-  Very Poor
-  No Habitat Assessment
-  Lakes and Ponds
-  Watersheds

**WATERSHED GROUP:
UPPER BULL RUN**



0 3000 6000 9000 12000 Feet




Figure 3-59
Habitat Assessment
Upper Bull Run Group
Fairfax County Stream Physical Assessment





Inventory Types

- Cross Section
- ⚡ Head Cut

CEM Stage

- Not Assigned
- 1
- 2
- 3
- 4
- 5

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

WATERSHED GROUP:
UPPER BULL RUN



0 3000 6000 9000 12000 Feet

Figure 3-60
CEM Stages
Upper Bull Run Group
Fairfax County Stream Physical Assessment





Erosion by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

WATERSHED GROUP:
UPPER BULL RUN

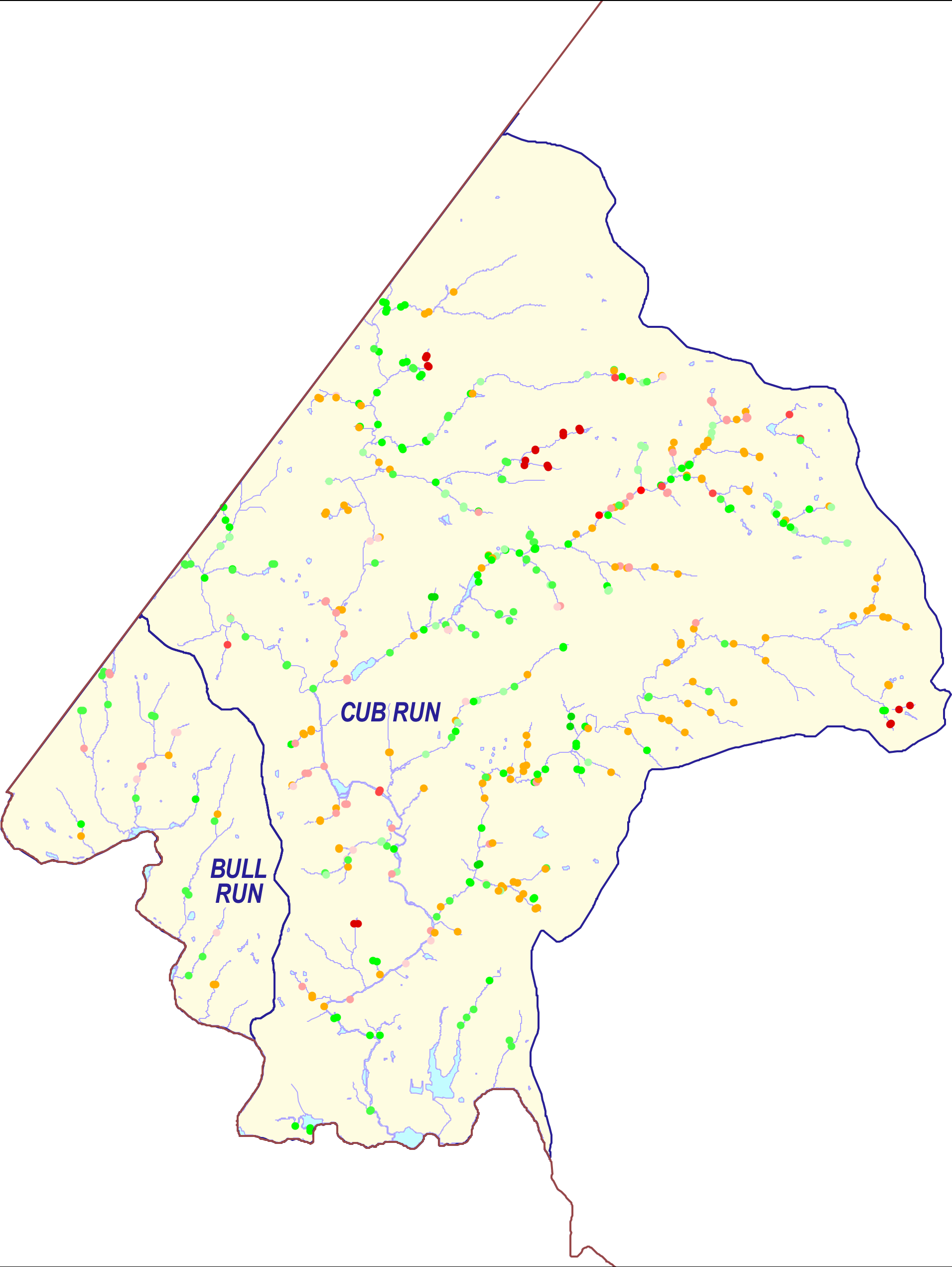


0 3000 6000 9000 12000 Feet



Figure 3-61
Erosion Impacts
Upper Bull Run Group
Fairfax County Stream Physical Assessment





Deficient Buffer by Impact Score

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

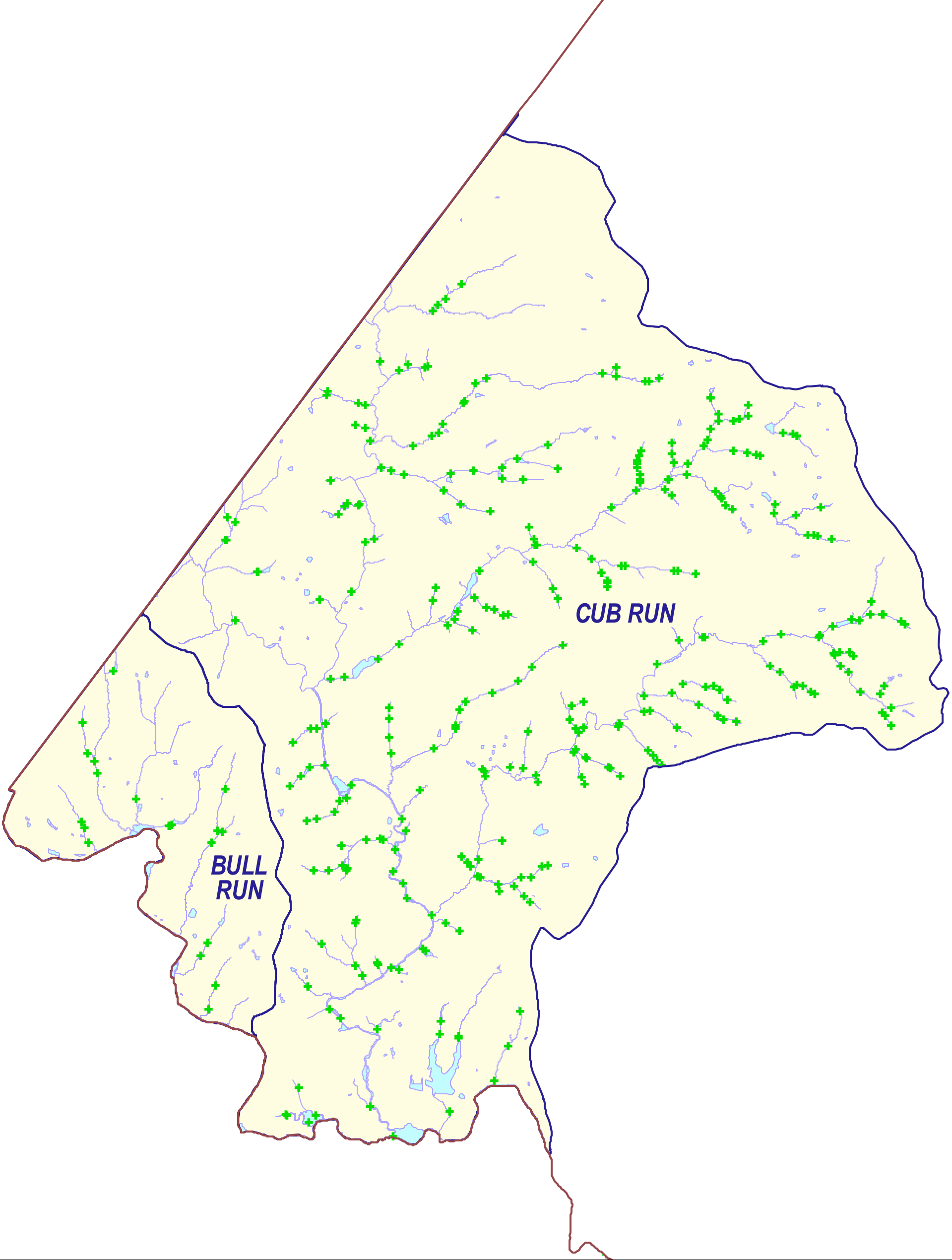
WATERSHED GROUP:
UPPER BULL RUN



0 3000 6000 9000 12000 Feet

Figure 3-62
Deficient Buffer Impacts
Upper Bull Run Group
Fairfax County Stream Physical Assessment






Inventory Type

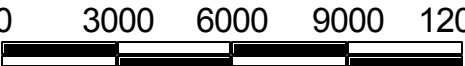

- + Crossing


- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

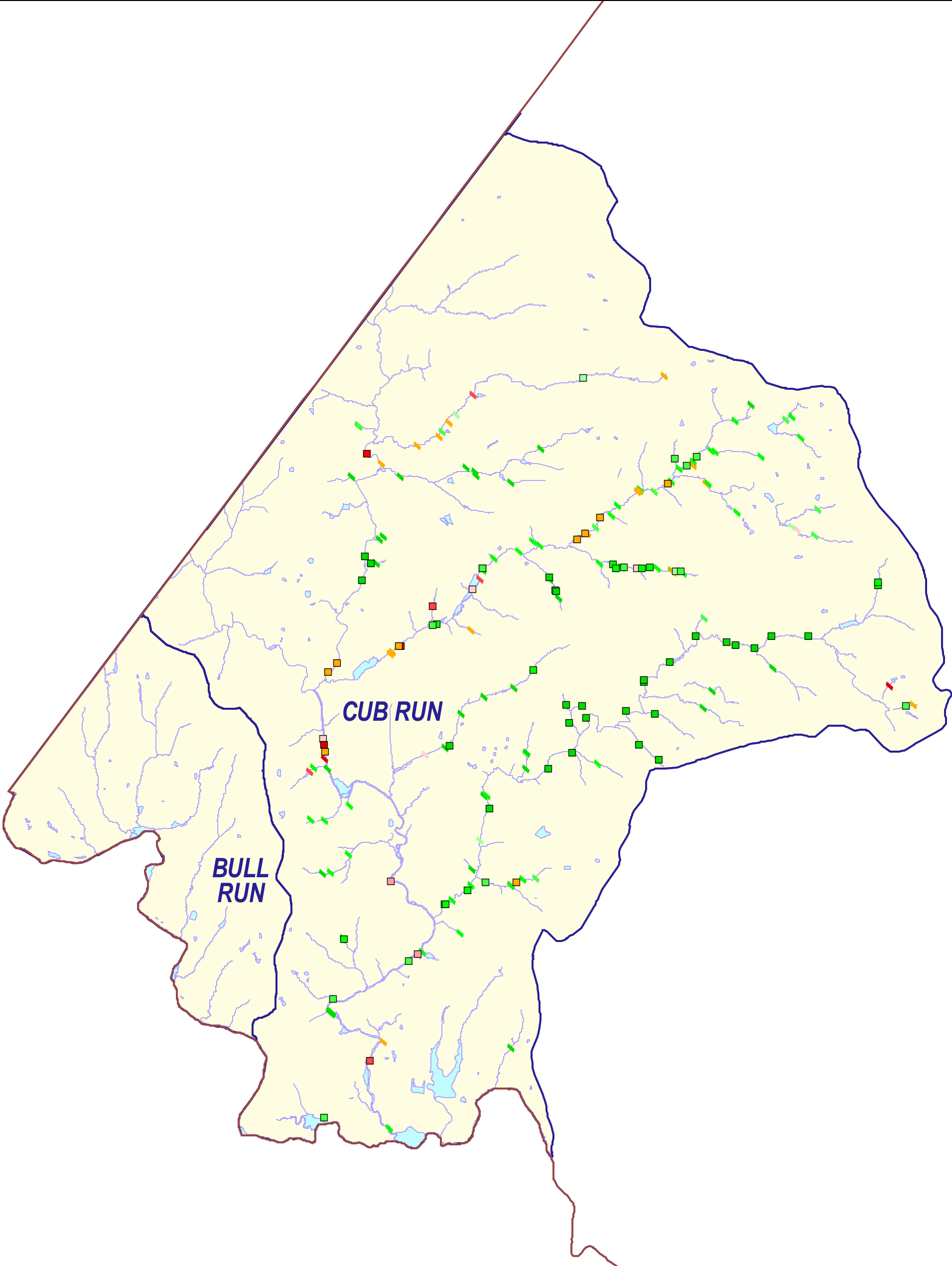
**WATERSHED GROUP:
UPPER BULL RUN**



**Figure 3-63
Crossings
Upper Bull Run Group
Fairfax County Stream Physical Assessment**







Pipe / Ditch by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

WATERSHED GROUP:
UPPER BULL RUN

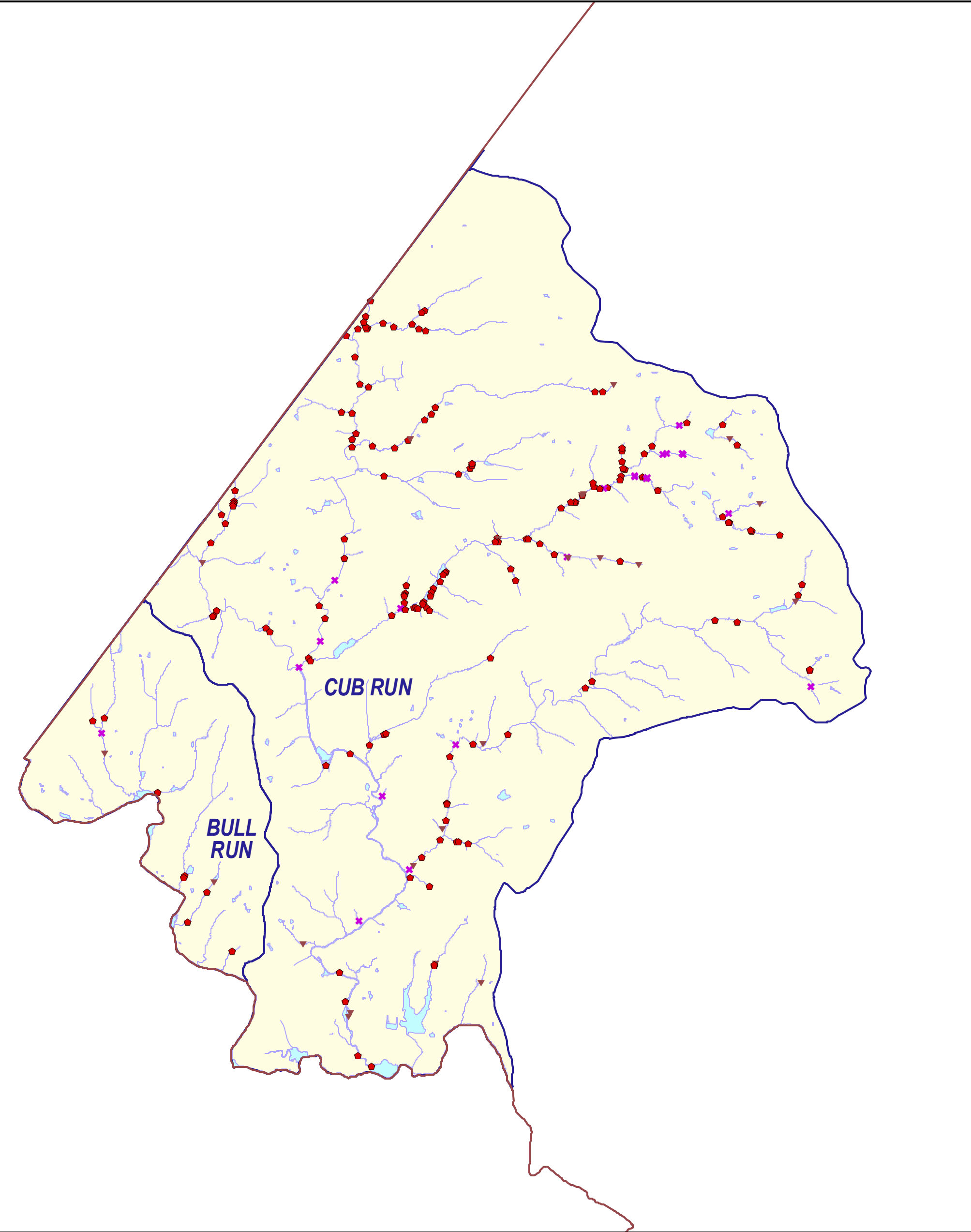


0 3000 6000 9000 12000 Feet



Figure 3-64
Pipe and Ditch Impacts
Upper Bull Run Group
Fairfax County Stream Physical Assessment





Inventory Types

- ▼ Dump
- ◆ Obstruction
- * Utility

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

WATERSHED GROUP:
UPPER BULL RUN

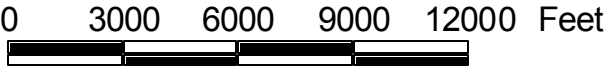


Figure 3-65
Dumps, Obstructions, and Utilities
Upper Bull Run Group
Fairfax County Stream Physical Assessment

